Attachment F, 42892 UM Johnson Commons AV Drawings.pdf

GS# 107-317
JOHNSON COMMONS EASE RENOVATIONS
UNIVERSITY OF MISSISSIPPI
OXFORD MISSISSIPPI

AUDIO VISUAL SYSTEMS
RACEWAY & POWER DISTRIBUTION COORDINATION

CONSULTANT

Roland, Woolworth & Associates, LLC
356 CR 102
Oxford, MS 38655

662.513.0665

http://www.rwaconsultants.net

Consultants in Acoustics & Audio Video Technology

SHEET INDEX
Electrical Coordination & AV Raceway Systems

AV Systems Integration

See Architectural and Electrical Drawings. AV Electrical Drawings shown for reference only.

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JOHNSON COMMONS EAST RENOVATION
GS #107-317
THE UNIVERSITY OF MISSISSIPPI
OXFORD, MISSISSIPPI

UM PROJECT # 12-205
CD SET

PROJECT #: 1306
DATE: 05.18.16
REVISION: 02.07.18
SHEET:
TITLE SHEET

E-AV0.1

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AV BACKBOX LEGEND

Type	Box	Mounting Height	Mounting Config	Supplied By	Installed By	Function	Note
A	2G Deep Type w/2G trim	Ceiling	Flush	Div 26	Div 26	Antenna Plug Box	
AC	Hoffman ASE6x6x64	+12" AFF	Surface	Div 26	Div 26	AV Rack Power Feeder	
AVK	Hoffman ASE6x6x64	+12" AFF	Flush	Div 26	Div 26	AV Equipment J-Box	
DL	2G, 3.5" deep	+12" AFF	Flush	Div 26	Div 26	AV Plug Box	
FB	Wiremold RFB2-SS/FPBTCB	Floor	Flush	Div 16/26	Div 16/26	Combined AV & power floor box	Verify cover type and color with architect.
LV	2G, deep type	+48" AFF	Flush	Div 26	Div 26	Screen Control	
MDF	Hoffman ASE36X24X8NK	+8' AFF	Suspended	Div 26	Div 26	AV Pull Box	
PJ	2 gang, 3.5" deep	+6" above projector shelf, verify	Flush	Div 16/26	Div 16/26	Video Display Plug Box	
PP	2 gang, 3.5" deep	+12" AFF	Flush	Div 26	Div 26	AV Plug Box	
S1	JBL MTC-19NC	Ceiling	Flush	Div 26	Div 26	Loudspeaker Trim Ring & Box	Stub conduit through 12.1" hole for connection to loudspeaker assembly.
S2	JBL Control 24CT Micro	Ceiling	Flush	Div 26	Div 26	Loudspeaker Assembly	
SC	Hoffman ASE4x4x4	Ceiling	Flush	Div 26	Div 26	Motorized Screen J-Box	Flex directly to screen motor housing. Provide flush-mount access door.
SX	Hoffman ASE30X30X16NK	Ceiling	Flush	Div 26	Div 26	Loudspeaker Backbox	

Technical Systems Field Panel Legend

Symbol	Configuration	
TL	Wall, (Flush or Surface)	All field boxes are designated with a Type that corresponds to the AV Systems Integration drawings.
FP	Flush Floor	Type Designator — TL
FP	Flush Ceiling	
IDF	Suspended or Pedestal	

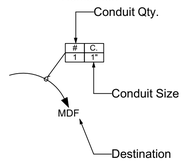
Conduit Label Conventions

Box to Stub Up, Stub into accessible ceiling area UON.

Number of conduits. Applies only in cases where multiple conduits are the same size.

Box to Box Connection, without home run.

Home Run



Destination Notes:

1. Destinations that include "DF" indicate AV racks included in the scope of work.

2. Destinations noted "IT" indicate the closest IT closet or COMM room. In this case, the contractor shall verify the end point with the owner.

AV CABLING & TERMINATION NOTES

GENERAL

1. All plenum wire shall meet applicable local codes.
2. Cable callouts shown on the single line drawings are for reference to the Basis of Design, UON.
3. All wire and cable shall be provided in accordance with the recommendations of the manufacturer for the connected equipment, UON.
4. All exposed wire and cable shall be plenum rated per NEC and NFPA.
5. Verify all cable types during submittal with the AV Consultant.
6. Verify cable lengths with manufacturer of connected equipment for all cable types.
7. Wire and cable for any device shall be supplied in accordance with the requirements of the device manufacturer
8. Wire and cable shall be installed in compliance with the National Electrical Code.
10. Wire, cable and signal conductors shall be new and unused.
11. All low level field cabling shall enter racks at punch points or directly soldered to equipment connectors.
12. Buss punch block ground points to single rack ground, see jack field detail.
13. Mechanically isolate all panel connectors from raceway system and finish plate.
14. Mechanically isolate connector chassis from rack panel. Pin 1 shall not be at the same potential as connector chassis or panel.
15. Mechanically isolate service entrance conduits from equipment rack.
16. Use #10AWG solid wire min. for all ground jumpers.
17. Isolate equipment rack from conduit, raceway and power distribution system.
18. Maintain proper twist ratio for all pairs (Category 6 patching and interconnect).
19. Terminate all pins and conductors (Category 6 patching and interconnect).
20. There shall be no ground loops, regardless of equipment configuration.
21. Use 3-wire grounded devices when possible.
22. Use only balanced audio terminations throughout system, U.O.N. Use only ratchet type crimp tools.

23. All wire and cable shall have a unique numering designator at each end of the physical media.
24. Contractor shall supply the cable in accordance with the recommendations of the connected equipment manufacturer.
25. Install and terminate cabling per AES, ANSI, IEC or BICSI standards, UON.
26. Contractor shall supply the optimum cable for the application.
27. All cabling shall be subject to the circuit type.
28. All cabling shall be subject to environmental conditions.
29. All calbing shall be provided and installed for bandwidth requirements.
30. Wiring designators are shown to indicate the requirements and to denote circuiting.
31. Contractor is free to use their own numbering scheme.
32. Contractor shall document all wire numbers on their shop drawings and as-built drawings.
33. Provide cable schedules for all cables UON. See specifications for additional requirements.

AUDIO CABLING

1. All low level field cabling shall enter rack at punch points or directly soldered to terminating connector at equipment or terminal panel.
2. Buss punch block ground points to single rack ground, see jack field detail.
3. If power supply includes ground to AC connector, do not terminate signal ground.
4. Mechanically isolate all panel connectors from raceway system and finish plate.
5. Mechanically isolate connector chassis from rack panel. Pin 1 shall not be at the same potential as connector chassis or panel.
6. Mechanically isolate service entrance conduits from equipment rack.
7. Use #10AWG solid wire min. for all ground jumpers.
8. There shall be no ground loops, regardless of equipment configuration.
9. Use 3-wire grounded devices when possible.
10. Use only balanced audio terminations throughout system, U.O.N.

DATA CABLING

1. Use only ratchet type crimp tools.
2. The presence of a non-ratchet crimp tool on the job site shall render all connections suspect.
2. Use only standard wiring and active devices, do not use crossover cables unless specifically noted on the drawings.
3. Use pre-made (manufactured) cables whenever possible.
4. Certify all Ethernet cable runs for Gigabit operation, min., per specifications.
5. Certify all proprietary cable runs per the manufacturer's recommendation.
6. All cabling transporting data shall be provided and installed in compliance with the connected endpoints.
7. For this section, “connected endpoints” indicates manufacturer requirements of devices connected to data cabling plants.

RACEWAY & POWER DISTRIBUTION NOTES

GENERAL

1. All work on this sheet is part of Div 26, UON.
2. Architectural details shown on this sheet are for reference only. Refer to the architectural drawings for construction details.
3. The contractor shall coordinate all work with the General Contractor and/or Electrical Contractor as applicable.
4. Verify site conditions for all work. Inspect rough-in progress for all AV raceway systems.
5. Note that the project is under construction and most areas are at the final stages of completion.
6. The Contractor may be required to mount devices in finished, or near finished ceilings.
7. Coordinate all work with the General Contractor and provide all required mounting systems required.
8. All exposed hardware, mounts, grilles, etc. shall be painted as directed by the architect.

CONDUIT

1. All conduit indicated on risers or plans is 1.0" U.O.N.
2. All conduit shall be ferrous metal construction/EMT see Division 26.
3. All conduit, pull boxes, junction boxes and backboxes shall be installed under Division 26.
4. Conduits located in floor rigid galvanized type, UON, see Division 26.
5. Conduits shall be electrically isolated from AV equipment racks.
6. Isolate service entrance to racks with nylon or plastic bushings, coordinate with AV contractor.
7. Do not combine AV conduits with power distribution systems.
8. Do not consolidate or combine AV cabling or conduits. Separate raceways are required for each circuit level as shown.
9. Install a single continuous pull string in each conduit.
10. Pull boxes shall be installed after each 270 degree bend. Pull boxes are not indicated on the plans.
11. PVC or plastic conduit is prohibited unless previously authorized by the AV Consultant.
12. Refer to architectural and/or electrical drawings for additional conduit installation requirements.

BACKBOXES

1. All backbox locations shall be closely coordinated with AV prior to installation.
2. Backbox locations as shown on the plans are conceptual. Actual locations shall be closely coordinated with AV (Div 11) prior to installation.
3. Backbox locations as shown on the plans reflect recommended locations, verify all locations prior to rough-in.
4. Contractor shall verify all backbox locations with the Electrical Engineer or AV Consultant prior to installation.
5. Coordinate box locations with architect to avoid conflicts with architectural features.
6. If conflicts exist between conduit systems, contact the Electrical Engineer.
7. If conflicts exist between conduit systems, contact the AV Consultant.
8. NEMA backboxes designated for future use shall be installed with a blank oversized cover plate.
9. The Electrical Contractor shall verify and coordinate all AV backbox locations with the architect or AV Consultant prior to installation.
10. Power receptacles shall be located directly adjacent to AV backboxes U.O.N.
11. Refer to AV systems integration details for more information on backbox installation (under separate issue).
12. Boxes noted as “4S” are standard EO style, 4" Square Box, Welded, Metallic, 2-1/8" Deep (min., UON).
13. Provide trim rings as noted for standard gang plates.

WIREWAYS

1. All wireways and cable trays shall be supplied and installed under Division 26, if applicable.
2. All wireways shall be covered.
3. Cable trays and wireways shall include separate, isolated paths for signal cabling.
4. Coordinate actual wireway/tray paths with Electrical Engineer and AV Consultant.
5. Do not combine AV cabling circuits with power distribution conduits.
6. Refer to architectural drawings for additional information on tray routing and installation details.
7. Refer to AV equipment rack drawings for details on AV cabling and rack service entrance.

OWNER-FURNISHED SYSTEMS

1. Conduit requirements for systems by others are shown for this work only where specific integration is required.
2. Coordinate installation of conduit systems with those of owner-specified systems or systems by others.
3. Coordinate and verify presence of Telco, Data, LAN, CATV, SATV service entrances.
3. MDF/IDF locations include space for owner-furnished and future equipment.
4. Provide conduit landings as noted on the drawings.

POWER DISTRIBUTION

1. All power systems for locations shown shall be provided as part of Division 26 and the related electrical system drawings.
2. All receptacles 20A, U.O.N.
3. Do not combine AV conduits with power distribution systems.
4. Mount all power receptacles as shown on the plans, U.O.N.
5. Mounting height for AV receptacles are the same as the adjacent AV box, see backbox legend.
6. Receptacles shown or noted on AV drawings should be distributed from a transformer-isolated power transformer, U.O.N.
7. The AV power distribution transformer and service panel should be designated exclusively for AV use.
8. The AV power distribution transformer and service panel should be free from dimmable loads, motors and other noise-inducing circuits.
9. AV power noted on these sheets is for reference only. Refer to electrical power drawings for requirements.
10. All power systems should be sourced from separate transformer-isolated sub-panels.
11. The schedule includes a field for power circuiting.
12. Locations of the same designator may share a single circuit within the same room or location where permitted by loads.
13. Provide a single circuit where noted as “dedicated” or “isolated”.

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JOHNSON COMMONS EAST RENOVATION
GS #107-317
THE UNIVERSITY OF MISSISSIPPI
OXFORD, MISSISSIPPI

UM PROJECT # 12-205

CD SET

PROJECT #: 1306

DATE: 05.18.16

REVISION: 02.07.18

SHEET:

LEGEND & NOTES

E-AV1.0

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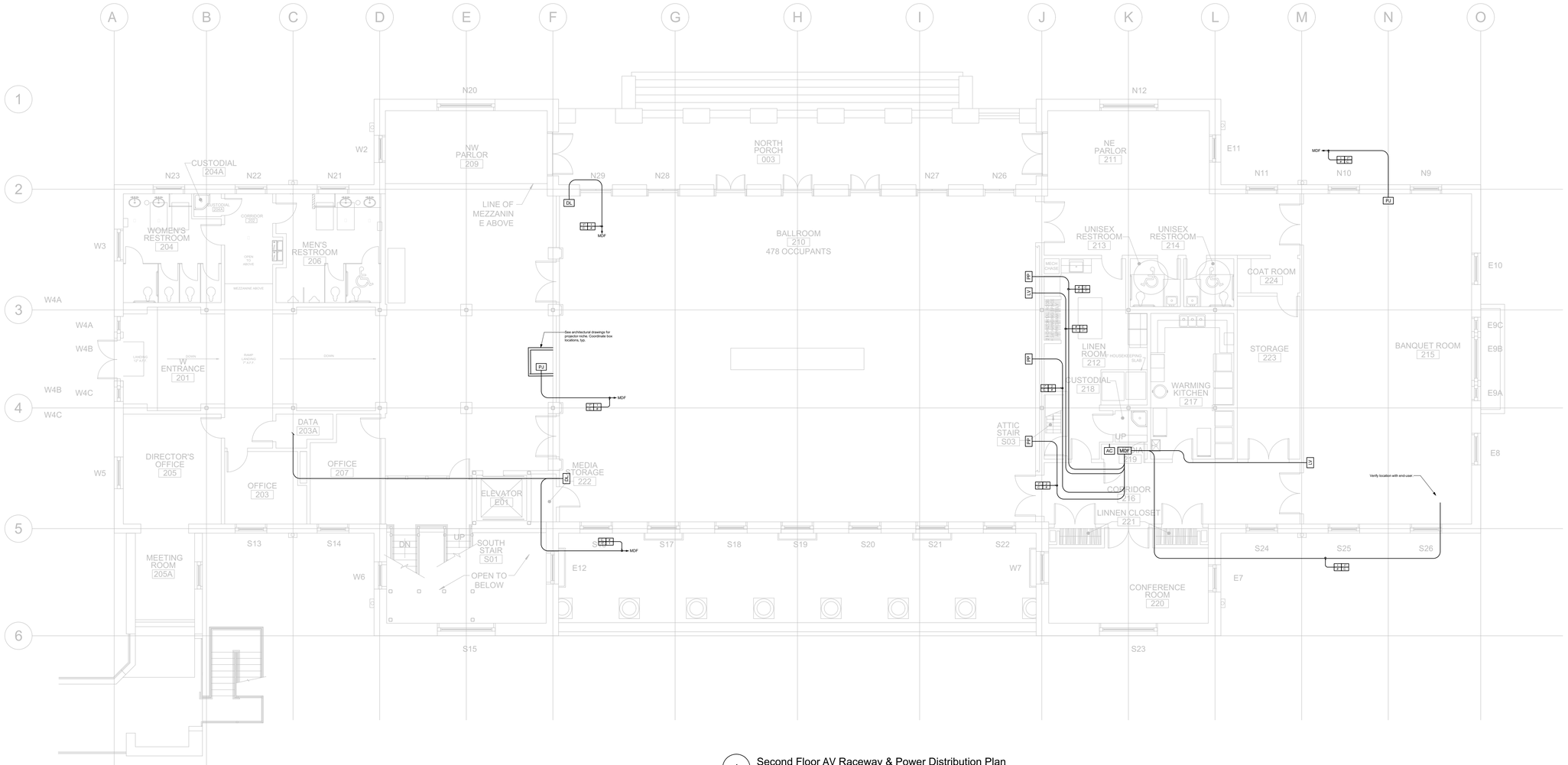

1 Second Floor AV Raceway & Power Distribution Plan
Scale: 1/8" = 1'-0"

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UM PROJECT # 12-205
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SHEET:
RACEWAY PLAN

E-AV1.1

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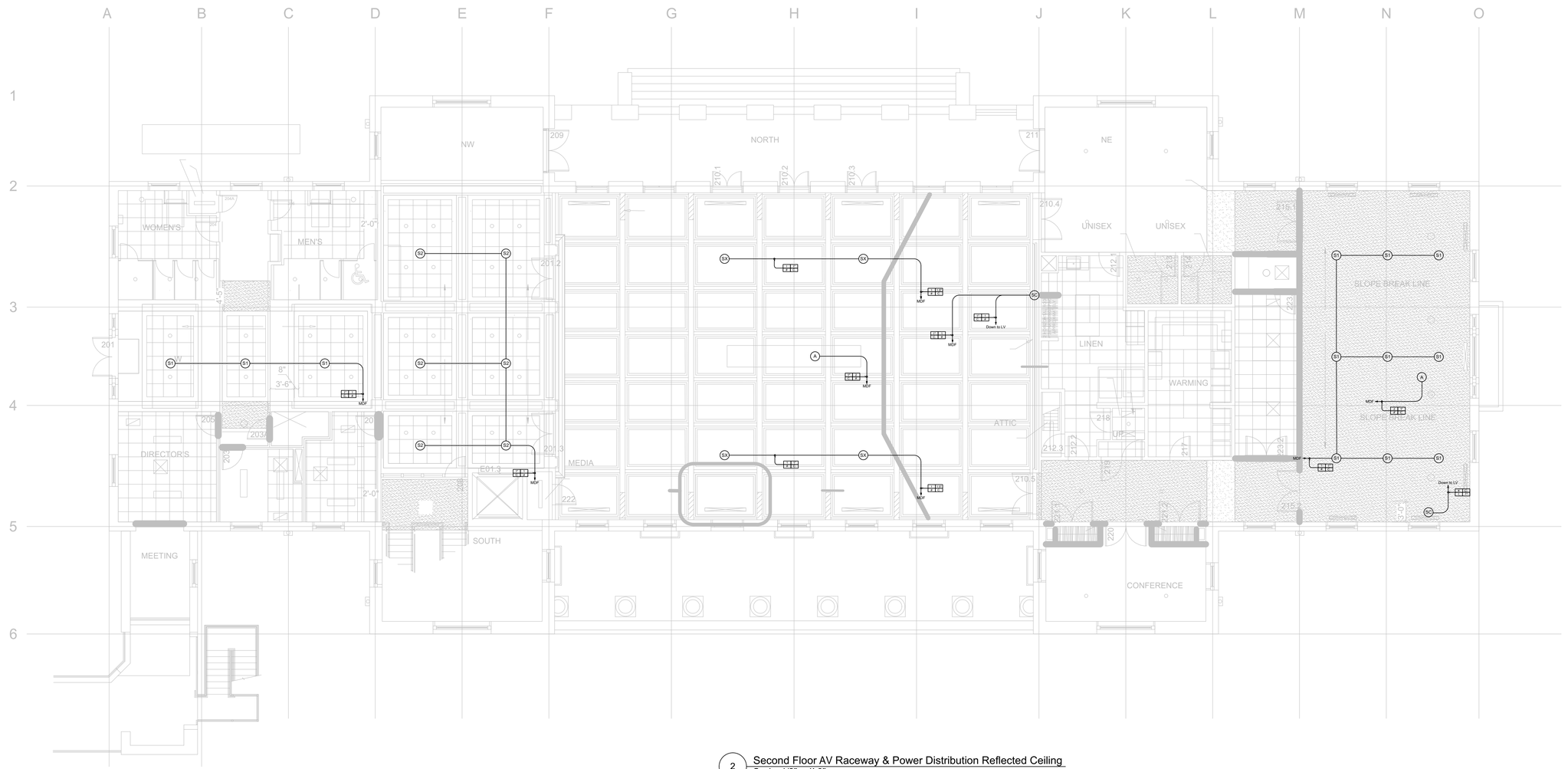

2 Second Floor AV Raceway & Power Distribution Reflected Ceiling
Scale: 1/8" = 1'-0"

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UM PROJECT # 12-205
CD SET

PROJECT #: 1306
DATE: 05.18.16
REVISION: 02.07.18
SHEET:
RACEWAY RCP

E-AV1.2

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ABBREVIATIONS

A	Antenna or Antenna Connection Point
AC	Alternating Current (Power Distribution)
AFF	Above Finished Floor
AIC	Audio Input Card
AL	Assited Listening
AM	Amplitude Modulation (AM Radio)
AOC	Audio Output Card
AT	Constant Voltage Attenuator
ATK	Constant Voltage Attenuator Rack Panel
AVD	Audio Video Distribution Unit
AVI	Audio Video Interface
BOB	Breakout Box
CL	Center Line
CN	CobraNet
CP	Control Panel or Control Point
CRT	Cathode Ray Tube Display
CSP	Control System Port
CU	Control Unit, Control Panels
D	Data
DA	Distribution Amplifier
DC	Direct Current (Circuit Designator)
DSP	DSP Signal Processor
DT	Data Terminal
DV	Digital Video
DVD	Digital Video or Versatile Disc Player
EQ	Equalizer
FA	Fire Alarm
FB	Foldback
FBK	Foldback Rack Panel
FC	Format Converter
FM	Frequency Modulation (FM Radio)
FP	Floor Pocket
FPD	Flat Panel Display
FS	Filter Set
GPIO	General Purpose Input/Output
I/O	Input/Output Interface
IDF	Intermediate Distribution Frame
IR	Infrared
IRE	Infrared Emitter
INT	Interface
J	Junction or Junction Box
K	Relay
LINE	Line Level (+4dBm)
LAN	Local Area Network
LCD	Liquid Crystal Display
LIM	Limiter
M	Microphone Level (<-20dBm)
MCS	Master Control Server/Controller
MDF	Master Distribution Frame
ML	Mic or Line Level
MLK	Mic, Line on Rack Panel
MLS	Mic, Line, Speaker
MOD	Modulator
MON	Monitor
NET	Data network
NC	Normally Closed or No Connection
NO	Normally Open
OFE	Owner Furnished Equipment
PA	Power Amplifier
PTZ	Pan/Tilt/Zoom
PC	Computer (Mac, Windows, Linux)
PRJ	Projector
PS	Power Supply
REC	Record or recorder
RF	Radio Frequency
RK	Rack Mounted device
RKP	Rack Panel
RX	Receiver
S	Loudspeaker, Speaker
SUM	Mixer
TP	Touch Panel
TX	Transmitter
UON	Unless Otherwise Noted
V	Volume
VC	Volume Control
VD	Visual or Video Display
X	Switch
XO	Crossover
Z	Impedence

Wire & Cable Reference

Type Designator	Function	Basis of Design	Notes
ML	Audio, Low Level	West Penn 452	OK for racks, conduit only, do not expose.
S16	Audio, High Level	West Penn 225	70V, direct-coupled to 100W at 4 Ohms, less than 200'
S14	Audio, High Level	West Penn 226	Direct-coupled to 750W, less than 100'
S12	Audio, High Level	West Penn 227	Direct-coupled to 1000W, less than 100'
TH	Audio, High Level	THHN (10-12AWG)	>1000W of audio power, size as recommended by manufacturer
COM	RS232	West Penn 452	OK for racks, conduit only, do not expose.
GP	GPIO	As Required	As recommended by manufacturer.
IP	Data, IP Type	West Penn 4246F	Ethernet and similar networks, <50 meters.
IP	Data, IP Type	West Penn 4246AF	Ethernet and similar networks, >50, <100 meters.
DTP	UTP, Proprietary	Extron DTP24	AV Transport, as recommended by Extron
FX	Optical	NA	As recommended by the manufacturer of connected endpoints.
AES	AES3 (EBU)	Belden 1696A	All uses within the limits of the AES specification.
AES50	AES50	West Penn 4246AF	All uses within the limits of the AES specification.
SDI	HD-SDI	Belden 1855A	In racks, risers, conduit installation, 250' max.
SDI	HD-SDI	Belden 1505A	In racks, risers, conduit installation, 300' max.
SDI	HD-SDI	Belden 1694A	Conduit installation, 400' max.
SDI	HD-SDI	Belden 1695A	Plenum or exposed installation, 300' max.
RGB	RGB/VGA	West Penn 3CRGB	OK for racks, conduit only, do not expose
NTSC	NTSC Video	West Penn 819	OK for racks, conduit only, do not expose
PCOM	Production Com	West Penn 452	OK for racks, conduit only, do not expose, use similar for 2-channel systems.
DMX	DMX	Belden 9842	OK for racks, conduit only, do not expose
RF	RF	RG6	Per manufacturer.

AV CABLING & TERMINATION NOTES

GENERAL

1. All plenum wire shall meet applicable local codes.
2. Cable callouts shown on the single line drawings are for reference to the Basis of Design, UON.
3. All wire and cable shall be provided in accordance with the recommendations of the manufacturer for the connected equipment, UON.
4. All exposed wire and cable shall be plenum rated per NEC and NFPA.
5. Verify all cable types during submittal with the AV Consultant.
6. Verify cable lengths with manufacturer of connected equipment for all cable types.
7. Wire and cable for any device shall be supplied in accordance with the requirements of the device manufacturer
8. Wire and cable shall be installed in compliance with the National Electrical Code.
10. Wire, cable and signal conductors shall be new and unused.
11. All low level field cabling shall enter racks at punch points or directly soldered to equipment connectors.
12. Buss punch block ground points to single rack ground, see jack field detail.
13. Mechanically isolate all panel connectors from raceway system and finish plate.
14. Mechanically isolate audio connector chassis from rack panel.
15. Mechanically isolate service entrance conduits from equipment rack.
16. Use #10AWG solid wire min. for all ground jumpers.
17. Isolate equipment rack from conduit, raceway and power distribution system.
18. Maintain proper twist ratio for all pairs (Category 6 patching and interconnect).
19. Terminate all pins and conductors (Category 6 patching and interconnect).
20. There shall be no ground loops, regardless of equipment configuration.
21. Use 3-wire grounded devices when possible.
22. Use only balanced audio terminations throughout system, U.O.N. Use only ratchet type crimp tools.
23. All wire and cable shall have a unique numering designator at each end of the physical media.
24. Contractor shall supply the cable in accordance with the recommendations of the connected equipment manufacturer.
25. Install and terminate cabling per AES, ANSI, IEC or BICSI standards, UON.
26. Contractor shall supply the optimum cable for the application.
27. All cabling shall be subject to the circuit type.
28. All cabling shall be subject to environmental conditions.
29. All cabling shall be provided and installed for bandwidth requirements.
30. Wiring designators are shown to indicate the requirements and to denote circuiting.
31. Contractor shall provide wire numbers on all documentation, and is free to use their own numbering scheme.
32. Contractor shall document all wire numbers on their shop drawings and as-built drawings.
33. Provide cable schedules for all cables UON. See specifications for additional requirements.
34. Cable types are specified based on terminated end points. See single lines, provide as required to provide the system as shown. Provide cables as recommended by the manufacturer of the terminated equipment, UON.

AUDIO CABLING

1. All low level field cabling shall enter rack at punch points or directly soldered to terminating connector at equipment or terminal panel.
2. Buss punch block ground points to single rack ground, see jack field detail.
3. If power supply includes ground to AC connector, do not terminate signal ground.
4. Mechanically isolate all panel connectors from raceway system and finish plate.
5. Mechanically isolate connector chassis from rack panel. Pin 1 shall not be at the same potential as connector chassis or panel.
6. Mechanically isolate service entrance conduits from equipment rack.
7. Use #10AWG solid wire min. for all ground jumpers.
8. There shall be no ground loops, regardless of equipment configuration.
9. Use 3-wire grounded devices when possible.
10. Use only balanced audio terminations throughout system, U.O.N.

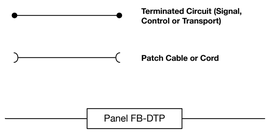
DATA CABLING

1. Use only ratchet type crimp tools.
2. The presence of a non-ratchet crimp tool on the job site shall render all connections suspect.
2. Use only standard wiring and active devices, do not use crossover cables unless specifically noted on the drawings.
3. Use pre-made (manufactured) cables whenever possible.
4. Certify all Ethernet cable runs for Gigabit operation, min., per specifications.
5. Certify all proprietary cable runs per the manufacturer's recommendation.
6. All cabling transporting data shall be provided and installed in compliance with the connected endpoints.
7. For this section, "connected endpoints" indicates manufacturer requirements of devices connected to data cabling plants.

WIRE NUMBERS

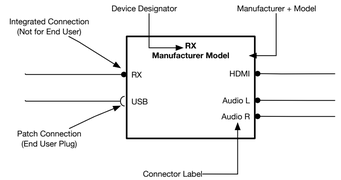
1. All wire and cable shall have a unique numering designator at each end of the physical media.
2. Contractor shall supply the cable in accordance with the recommendations of the connected equipment manufacturer, per AV best practice or AES, ANSI, IEC or BICSI standards.
3. Contractor shall supply the optimum cable for the application, considering the circuit type, environmental conditions, bandwidth requirements, termination type, cable construction and performance requirements.
4. Wiring designators are shown to indicate the requirements and to denote circuiting. Contractor is free to use their own numbering scheme.
5. Contractor shall document all wire numbers on their shop drawings and as-built drawings. Provide cable schedules for all cables UON.
6. See specifications for additional requirements.

Signal Flow & Terminations Legend



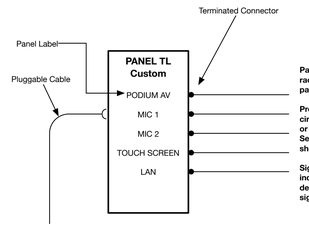
Cable Tag, continuous circuit, represented by a broken line across drawing details. Applies to single and multiple circuits of the same type.

Electronics Device Legend



Note that connections for field devices are shown "in context". Connections and terminations for some devices may not be shown. Verify correct terminations with the manufacturer in all cases.

Custom Panel Termination Legend

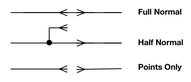


Panel Legend applies to field panels, rack panels and custom millwork panels.

Provide connector types typical for circuit (see wire & cable schedule) and/ or the terminated end point. See panel elevations, submit details in shop drawings.

Signal flow/direction is not literal, indicates a panel at source location or destination location, regardless of signal types.

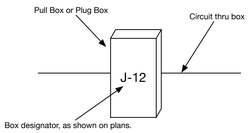
Jack Fields (Patchbays)



Jack Fields are shown on the single line as shown. Refer to connected circuits for signal type. Provide jack fields equal to the following products:

Audio, Low Level: Bittree 489-A SeriesA
Audio, High Level: Custom by Contractor, see detail
Video, NTSC, HD-SDI: Bittree 12G+ Series
Data, Copper: Rack Type, Punch, CAT6 certified (no keystones).
Data, Optical: Coupling Type, LC or ST, Rack Type.

Physical J-Box, Pull Box or Plug Box Legend

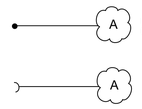


Indicates physical pull box or plug as shown on AV Raceway plans or related electrical drawings.

Box provided and installed by others, UON.

Coordinate with Electrical Contractor in all cases, verify box type and mounting conditions.

Network Switch Legend



Switches indicated as OFE (owner furnished) require careful coordination. Contact and coordinate with the owner's IT Staff and coordinate physical switches, patching, termination, ports, DHCP configuration, IP addresses, etc. as required to implement the systems as shown.

Network switches chassis/frame units may not shown on the single line drawings. Indication of a terminated LAN port indicates a switch is required at each physical location (MDF, FOH, IDF, etc.)

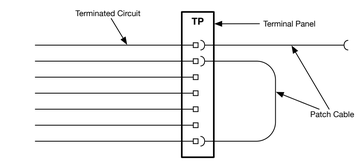
Provide and configure switches as recommended by the manufacturer of the connected systems. Include switch configuration in submittals. All switches shall be gigabit type (10/100/1000) and shall support AES67, and shall be compliant with the requirements of the connected equipment's manufacturer's recommendations.

Provide port quantity as shown on the single lines for terminated ports.

See specifications.

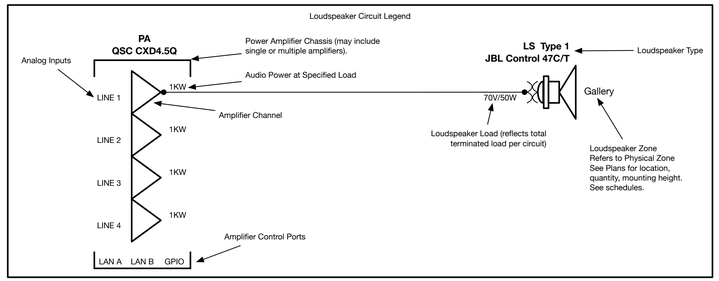
Network/Segment Types:
A: AES67, Q-Lan, Dante
V: Encoded Video
C: AV Control
L: Site LAN (by others)
U: Other Proprietary

Terminal Panel/Feed-Through Panel Legend



Basis of design: Bittree bulkhead type, or similar by ADC, ProCo or Whirlwind. Use one panel per circuit type, UON, see single lines. Type indicated by terminated circuits.

Loudspeaker Circuit Legend



AV INTEGRATION NOTES

LOUDSPEAKERS

1. Provide cabling as reflected by single line drawings.
2. Pull cable through pull box, do not splice or use panel connectors.
3. Amplifier circuit shall terminate directly to transducer UON.
4. Final adjustment of loudspeaker aiming and mouting configuration will be determined on-site during commissioning.
5. Obtain aiming coordinates from consultant, UON.
6. Provide rigging hardware that supports adjustment of all loudspeakers for 360 degrees of adjustment.
7. Provide lift, scaffolding and rigging kits required for loudspeaker mounting and adjustment.
8. Ensure that all equipment is adjustable as to not impede loudspeaker dispersion during commissioning.
9. Refer to single line drawings for component callouts, circuiting and related signal processing requirements.
10. Attached to structure only, coordinate and/or obtain approval from Structural Engineer, see specifications.
11. Equipment shall be held firmly in place with proper mounting hardware, suspension or rigging materials.
12. Equipment attached to any building structure, sub-structure or other load-bearing member shall be self-supporting.
13. All mounting or rigging hardware shall be installed with a safety factor of at least three times the required load.
14. Provide 100% redundancy for all rigging attachment points, verify with Structural Engineer.
15. Provide bumpers, array brackets, dead-hang hardware, fasteners, safety equipment as required by the loudspeaker manufacturer.
14. Use manufacturer's rigging hardware if available.
15. The AV Contractor shall verify, coordinate and obtain color preferences for all loudspeaker enclosures, related rigging, mounting hardware and accessories with the architect and/or owner.

PROJECTION

1. Coordinate installation of projection screen with General Contractor.
2. Provide rough-in backbox for screen motor UON.
3. Provide projection geometry as shown on the drawings, verify all parameters with the consultant.
4. Extend low voltage serial or GPIO control circuits to AV Control System, coordinate with consultant.
5. Provide lens as required by the projection geometry shown. Verify with projector manufacturer.
6. Provide lens as required for the projection geometry shown on the plans and sections.
7. Provide low-voltage controls for all projections screens, locate as directed by owner and/or consultant.

SURFACE-MOUNTED DISPLAYS

1. Verify mounting heights for all displays with end-user, coordinate with consultant.
2. Ensure that raceway and power distribution components are properly roughed-in to support the display position.
3. Verify structural support for mounting systems with the General Contractor.
4. Coordinate penetration of finished walls with General Contractor as necessary.
5. Ensure that electronics components are mounted to facilitate proper cooling.
6. Ensure that supplemental electronics, cabling and mounting systems are hidden from view.
7. Verify that display positions are compliant with egress requirements, verify with architect.

PANEL & PLATE NOTES

1. All exterior panel mounts shall be rivets or tamper proof screws UON, submit detail.
2. All panels shall be brushed, black anodized 1/8" aluminum UON.
3. All text shall be at least 1/8" high bold characters. Engrave and fill in white ink.
4. Bevel all panel edges by 1/16".
5. Connector borders shall be engraved 1/8" thick, filled in white ink.
6. Connector compliment is typical, see single line drawings and specifications for details, submit for approval.
7. Each character shall have a unique number corresponding to the conductor number, see single lines.
8. Panel elevations are conceptual, refer to single line drawings for connection requirements.
9. Submit shop drawings for all panels.
10. Coordinate field panel installation with electrical contractor.
11. Isolate panel metal from backboxes where necessary.
12. Verify backboxes with electrical drawings and/or AV Raceway drawings for all panel locations.
13. Verify field conditions for all panel locations, adjust panel sizes or finish configuration as required.
14. Verify that all conduit is isolated from backbox metal.
15. Do not couple signal ground to raceway system UON.
16. Where panels include 120VAC, coordinate with electrical contractor.
17. Do not install high voltage circuits, coordinate with electrical contractor.
18. All BNC connectors shall be as shown, isolated from chassis metal or Neutrik D Series UON.
19. All connectors shall be as shown UON.
20. All high-level audio connectors shall be Neutrik NL Type UON.
21. All RCA type connectors shall be Neutrik NF type.
22. All UTP data connectors shall be equal to CAT6 compliant, Neutrik etherCON Series UON.
23. All XLR type connectors shall be Neutrik DLX Series, solder cup type.
24. Match connector finish with panel color, verify all colors UON.
25. Provide optical connectors as shown, equal to Neutrik opticalCON Seriels.
26. Verify circuiting requirements for all optical connectors with connected manufacturer's recommendation.

SINGLE LINE NOTES

SIGNAL FLOW

1. Single line drawings, reconciled with the plans, constitute the design.
2. Wire numbers are shown for reference only.
3. All cables shall be numbered. Contractor is free to use their own cable numbering scheme.
4. Single line drawings may not include minor supplemental items, accessories and cabling.
5. Provide all required items to support the systems as drawn as recommended by the manufacturer or per AV best practice.
6. Configure LAN switches to support the ports shown on the single lines and applicable port schedules.
7. Refer to legends, abbreviations and callouts for specific direction.
8. See specifications for more information.

CONTROLS

1. Configure control server to accommodate all control ports shown, see control port schedule.
2. Provide applicable wireless gateway or other interfaces as required for wireless controls.
3. Provide local power for all devices under control, control clients and dedicated control panels/touch panels.
4. Where possible, power control panels and devices interface and transport units with Power Over Ethernet (POE).
5. Provide additional power supply to support POE or power to end-points where required.
6. All control cabling shall be provided as recommended by the specified or approved control system manufacturer.
7. Provide UI clients for all systems, duplicate primary control interface for each client.
8. UI clients shall be provided for Mac OS, Windows, Linux, iOS and Android devices. Verify and coordinate with owner.

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UM PROJECT # 12-205
CD SET

PROJECT #: 1306
DATE: 05.18.16
REVISION: 02.07.18
SHEET:
AV LEGENDS

AV1.0

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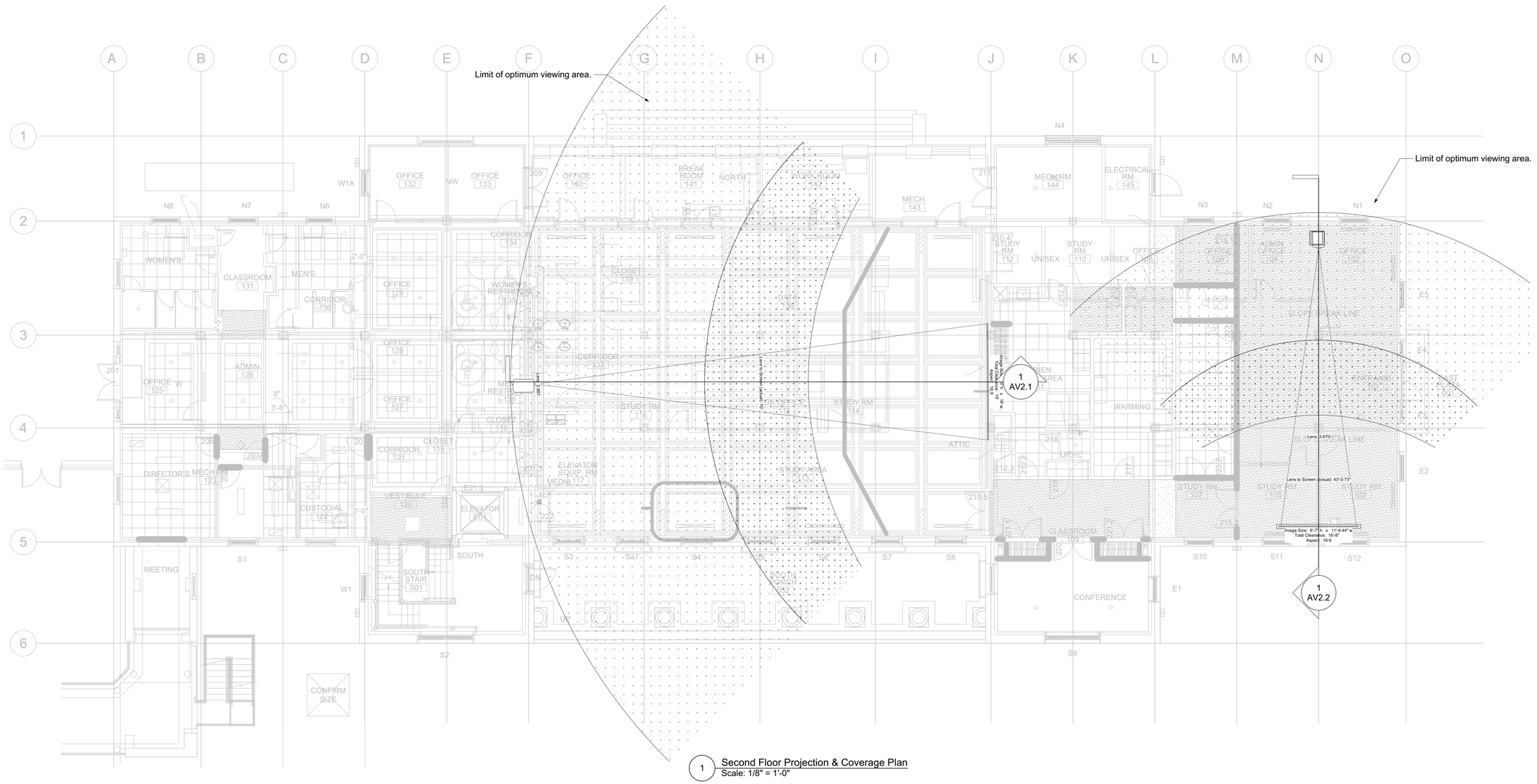

1 Second Floor Projection & Coverage Plan
Scale: 1/8" = 1'-0"

AV INTEGRATION NOTES

PROJECTION

1. Projection Screens by General Contractor.
2. Provide rough-in backbox for screen motor UON.
3. Provide projection geometry as shown on the drawings, verify all parameters with the consultant.
4. Extend low voltage serial or GPIO control circuits to AV Control System, coordinate with consultant.
5. Video Projection Coverage maps shown for reference.
6. Provide rigging, backing and structural brackets for video projectors.
7. Video projectors and related cabling, electronics and integration by others.
8. Provide low-voltage controls for all projections screens, locate as directed by owner and/or consultant.

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PROJECTION PLAN

AV1.1

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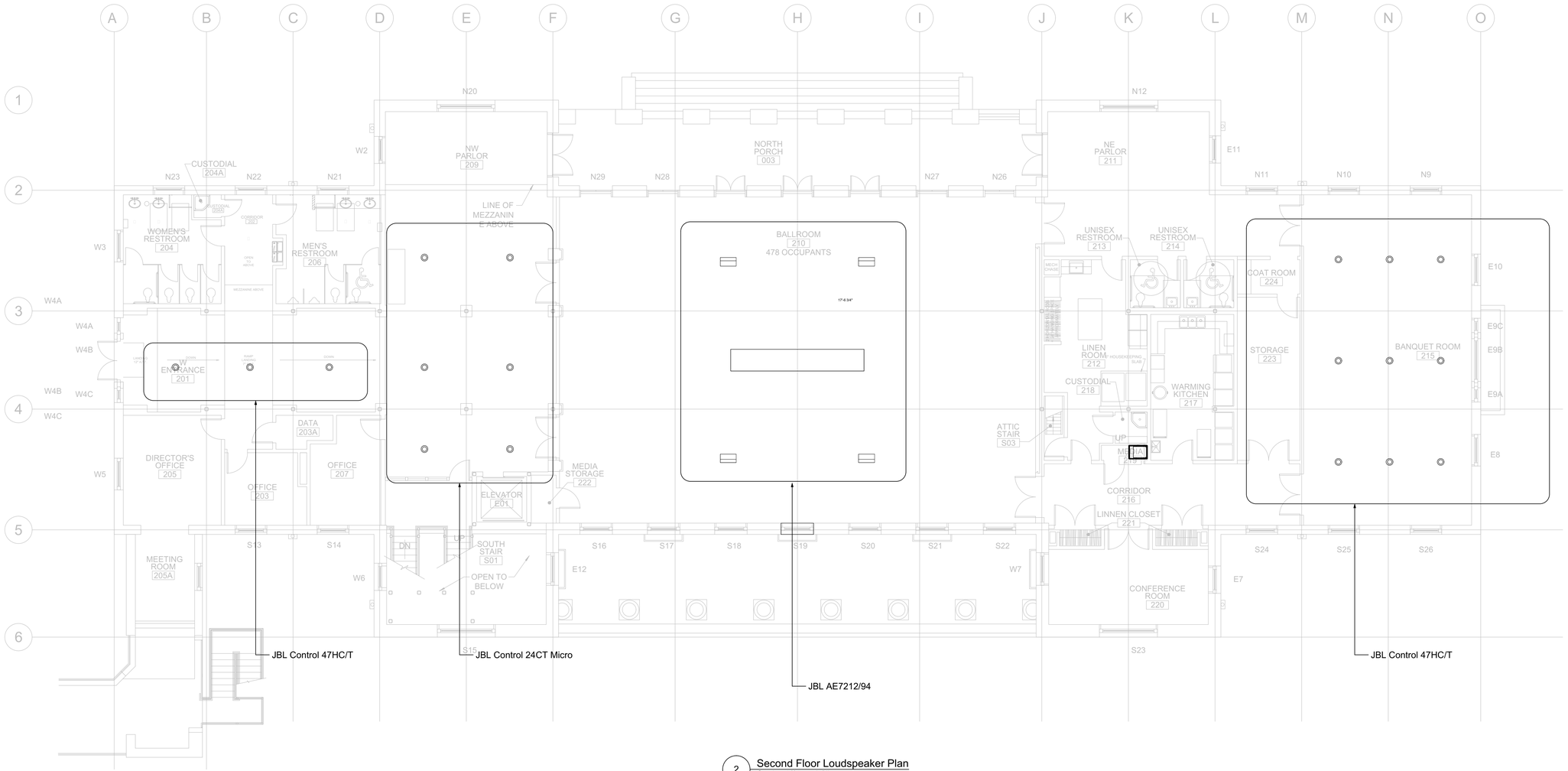

2 Second Floor Loudspeaker Plan
Scale: 1/8" = 1'-0"

AV INTEGRATION NOTES

LOUDSPEAKERS

1. Provide cabling as reflected by single line drawings.
2. Pull cable through pull box, do not splice or use panel connectors.
3. Amplifier circuit shall terminate directly to transducer UON.
4. Final adjustment of loudspeaker aiming and mouting configuration will be determined on-site during commissioning.
5. Obtain aiming coordinates from consultant, UON.
6. Provide rigging hardware that supports adjustment of all loudspeakers for 360 degrees of adjustment.
7. Provide lift, scaffolding and rigging kits required for loudspeaker mounting and adjustment.
8. Ensure that all equipment is adjustable as to not impede loudspeaker dispersion during commissioning.
9. Refer to single line drawings for component callouts, circuiting and related signal processing requirements.
10. Attached to structure only, coordinate and/or obtain approval from Structural Engineer, see specifications.
11. Equipment shall be held firmly in place with proper mounting hardware, suspension or rigging materials.
12. Equipment attached to any building structure, sub-structure or other load-bearing member shall be self-supporting.
13. All mounting or rigging hardware shall be installed with a safety factor of at least three times the required load.
14. Provide 100% redundancy for all rigging attachment points, verify with Structural Engineer.
15. Provide bumpers, array brackets, dead-hang hardware, fasteners, safety equipment as required by the loudspeaker manufacturer.
14. Use manufacturer's rigging hardware if available.
15. Pull cabling to MDF, leave at least 25' of slack available for termination to AV equipment (by others).

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LOUDSPEAKER PLAN

AV1.2

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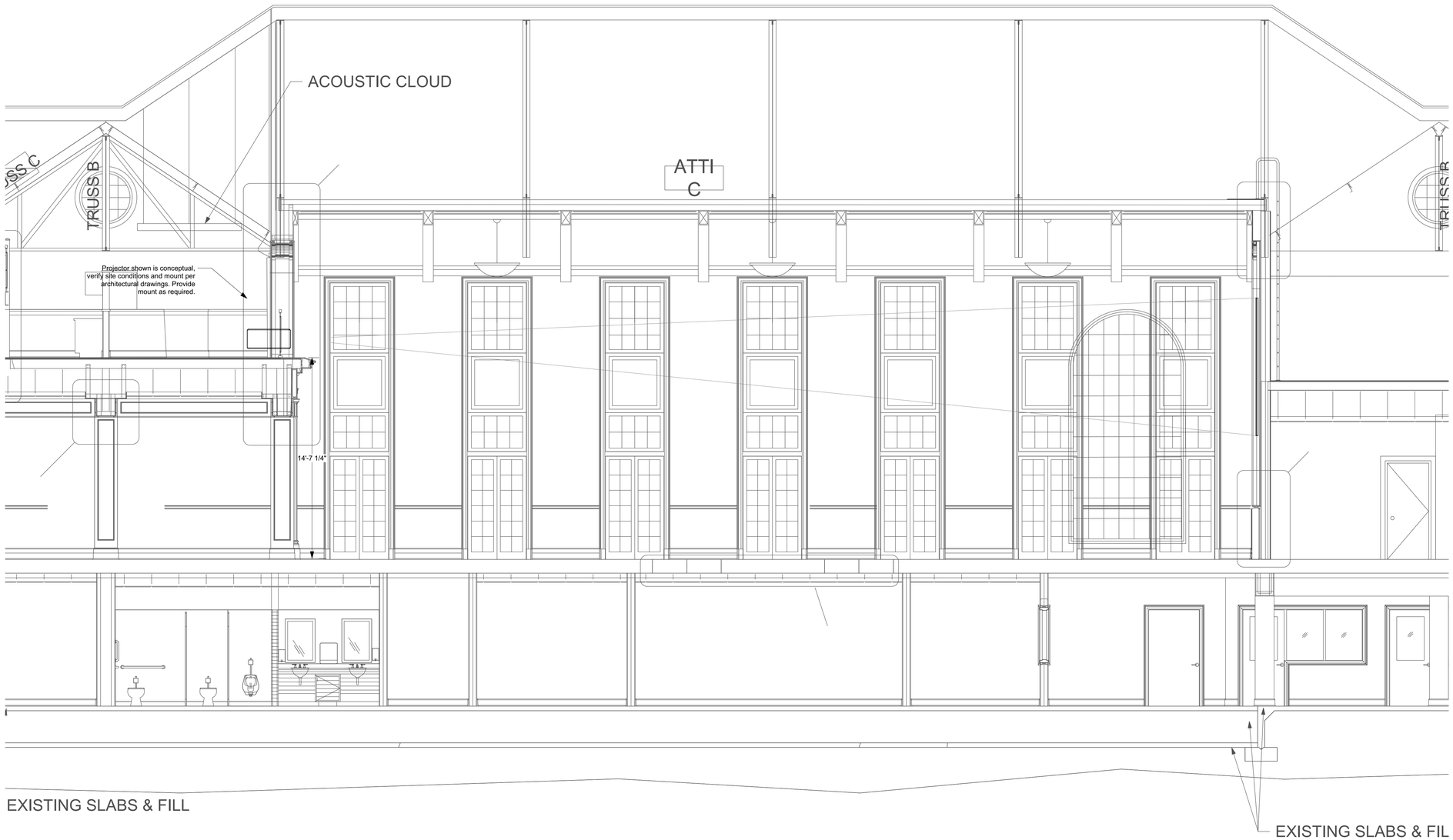

1 Ballroom Projection Section
Scale: 1/4" = 1'-0"

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PROJECTION SECTION

AV2.1

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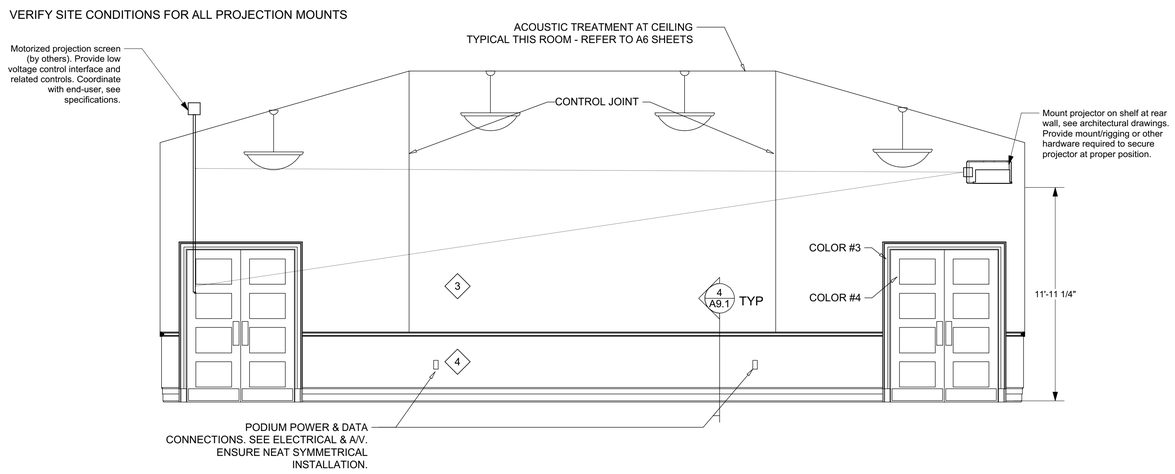

1 Banquet Room Projection Section
Scale: 1/4" = 1'-0"

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PROJECTION SECTION

AV2.2

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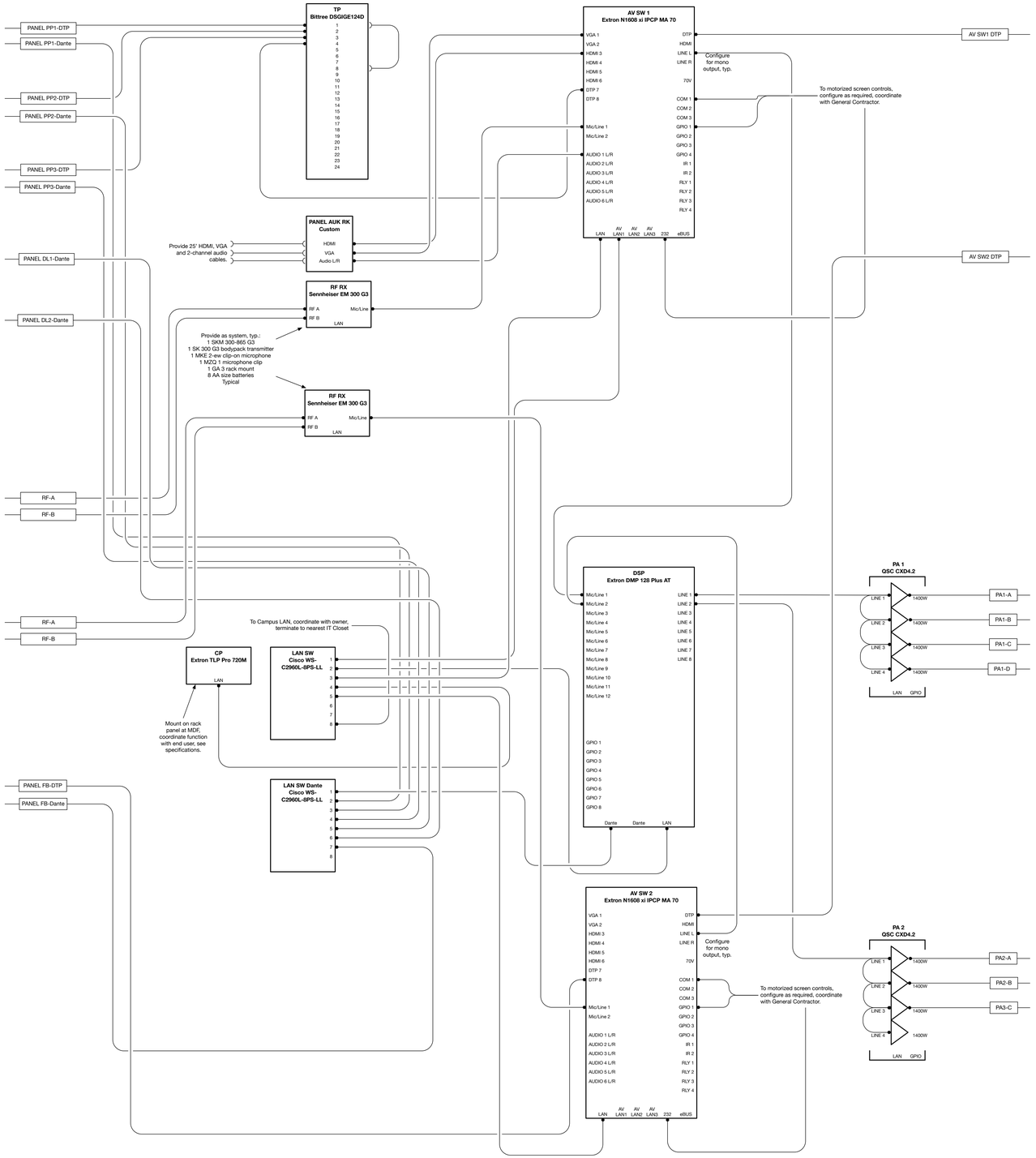

1 MDF Single Line Diagram

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MDF SINGLE LINE

AV3.1

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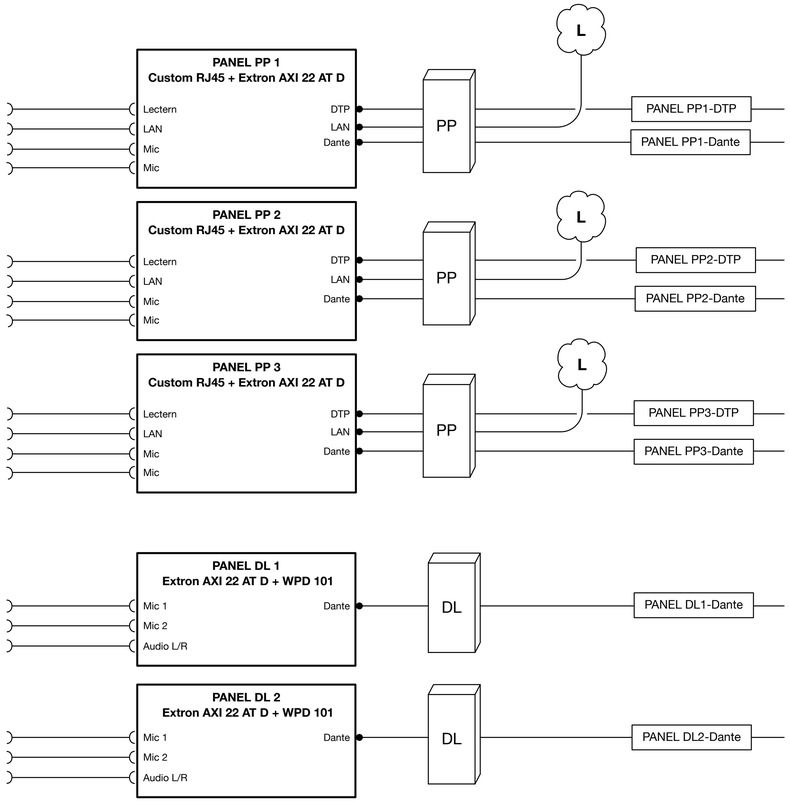
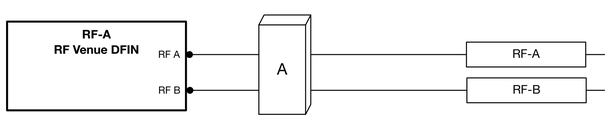
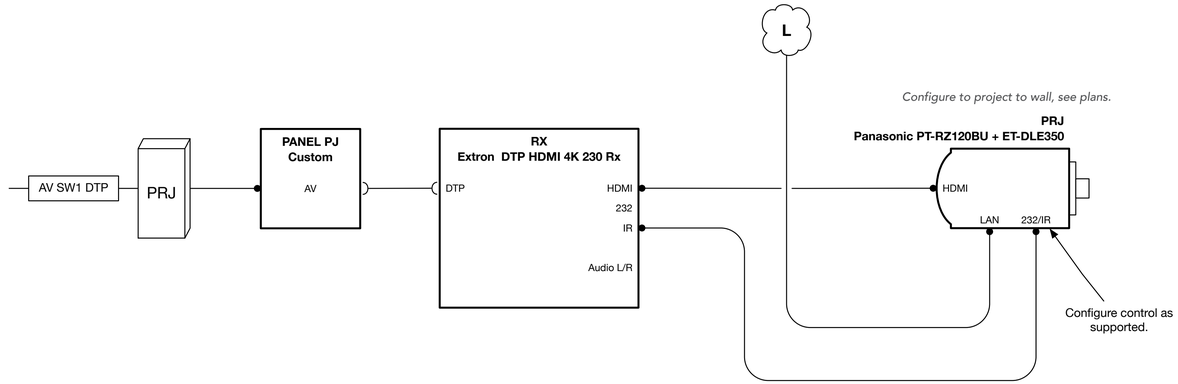


1 Ballroom Field Panel Single Line Diagram

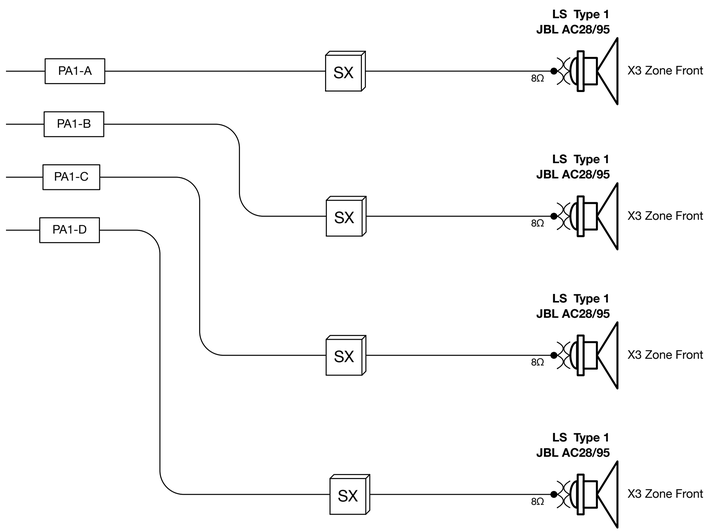


2 Ballroom RF Single Line Diagram



3 Ballroom Projection Single Line Diagram

1. See plans for quantity, location and mounting configuration.
2. See MDF single lines for circuiting and distribution.
3. Circuit numbers and zone labels are typical, see plans.
4. Circuit shown is typical, see plans.
5. Loudspeakers Provided and Installed by others, test, terminate and configure as part of system.



4 Ballroom Loudspeaker Single Line Diagram

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BALLROOM SINGLE LINES

AV3.2

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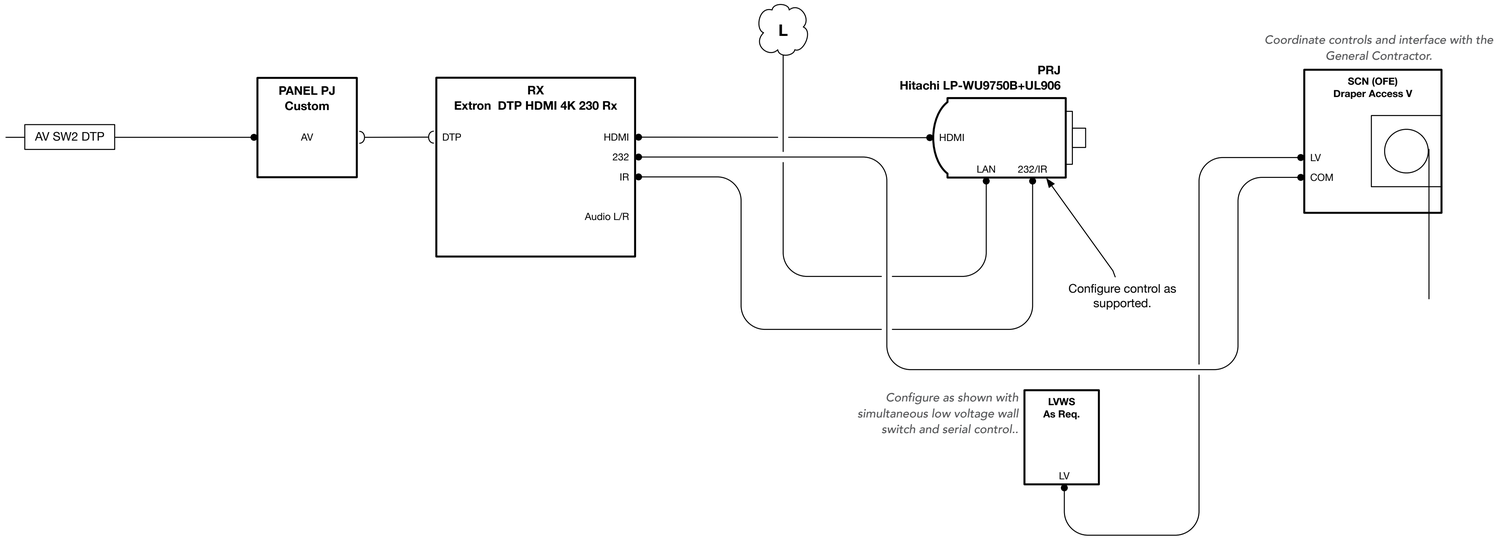
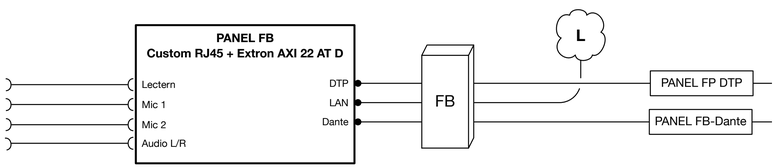
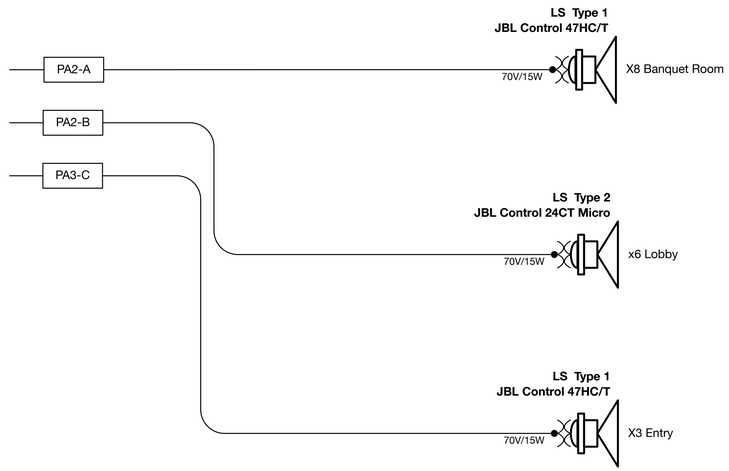


2 Banquet Room Projection Single Line Diagram



1 Banquet Room Field Panel Single Line Diagram



1. See plans for quantity, location and mounting configuration.
2. See MDF single lines for circuiting and distribution.
3. Circuit numbers and zone labels are typical, see plans.
4. Circuit shown is typical, see plans.
5. Loudspeakers Provided and Installed by others, test, terminate and configure as part of system.

3 Loudspeaker Zones Single Line Diagram

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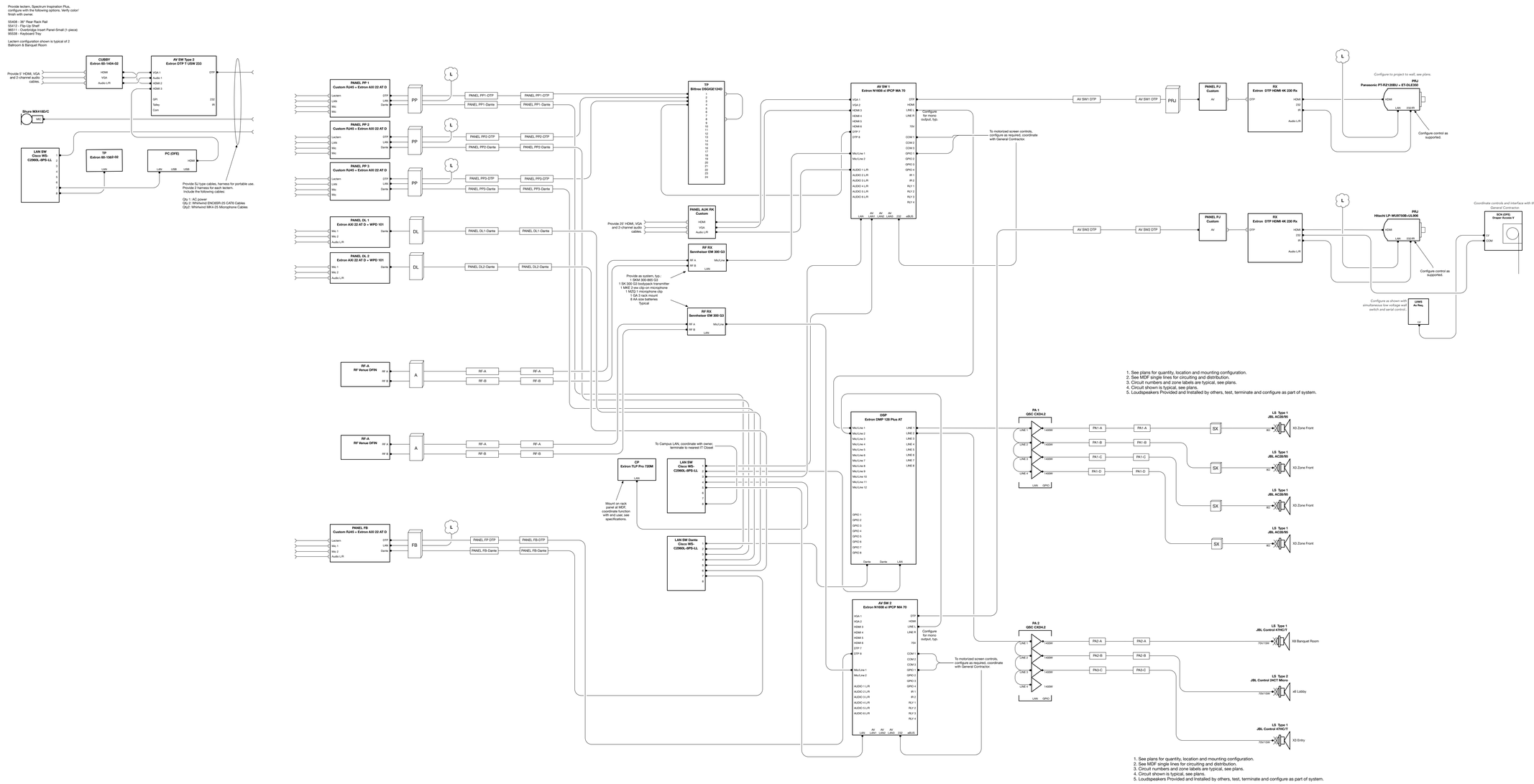
MISC SINGLE LINES

AV3.3

Attachment F, 42892 UM Johnson Commons AV Drawings.pdf



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JOHNSON COMMONS EAST RENOVATION
GS #107-317
THE UNIVERSITY OF MISSISSIPPI
OXFORD, MISSISSIPPI

UM PROJECT # 12-205
CD SET

PROJECT #: 1306
DATE: 05.18.16
REVISION: 02.07.18
SHEET:
OVERALL SINGLE LINE

AV3.4

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